A Phenomenology of the ‘Placebo Effect’: Taking Meaning from the Mind to the Body

ORON FRENKEL
University of California, Berkeley/University of California, San Francisco, Berkeley, CA, USA

Most mainstream attempts to understand the “placebo effect” invoke expectancy theory, arguing that expecting certain outcomes from a treatment or intervention can manifest those outcomes. Expectancy theory is incompatible with the phenomena of placebo responses, more appropriately named “meaning responses.” The expectancy account utilizes reflexive consciousness to connect a world of conceptual representations to mechanical physiology. An alternative account based upon Merleau-Ponty’s motor intentionality argues that the body understands and is capable of responding to meanings without the need for any conceptual or linguistic content. A motor intentional framework of meaning poses dramatic implications for the interpretation of clinical trials and in the clinical practice of medicine. Most strongly, it argues that the empathic physician can facilitate the physiologic effects of treatments through skillful participation and manipulation of the meaning response.

Keywords: meaning, phenomenology, placebo effect

I. INTRODUCTION AND DEFINITIONS

Since the 1950s, interest in the “placebo effect” has continued to increase, as evidenced by a growing body of literature dedicated to its study. Many health care practitioners believe that its use is critical to their success in curing disease. And yet despite its prominent role in the clinical theater and an extensive research program, aspects of this effect remain as mysterious as ever.
This paper will argue that the most popular accounts of placebo effects are generally based on some traditional conceptions of intentionality that obscure the role of the body. As a result, such accounts thereby require seemingly impossible logical conclusions to account for physiologic responses. This paper will argue for the role of a nonconceptual intentionality, preserving the advances made in the psychological placebo literature in a philosophically sounder way.

To accomplish this task, I will first summarize the tenets of classical conditioning and expectancy theory and their relation to placebo effects. The results of psychology experiments required cognitive content to account for observed placebo effects. I will use a phenomenological framework to show that this cognitive content is of a different form than that which current theories utilize. The main argument will be the suggestion that Merleau-Ponty’s motor intentionality, a bodily way of knowing and being, is a better way to understand placebo effects. Merleau-Ponty’s thinking will help us appreciate that people respond to the meanings of placebos and situations, not to placebos themselves, and will help us unpack what these meanings are. Finally, we will conclude with a discussion of how this relates to medical knowledge, clinical empathy, and implications for practice.

In order to proceed with our discussion, it is imperative to create a working understanding of placebo effects. Unfortunately, definitions of the placebo effect are as diverse as the people who like to think about it and can be endlessly confusing. Rather than getting bogged down in arguing with other authors about definitions, I prefer to define through example. Although it may be difficult to say exactly what the placebo effect is, like many other phenomena, its students can certainly recognize it when they see it.

Despite acknowledging its existence, there is a large resistance by biomedical physicians to engage in a discussion about the placebo effect because it is often perceived as something that can be fully accounted for within a first person description, putting it “all in someone’s head.” These examples preempt this criticism by capturing an essential property for our discussion: they are measurable and observable. They do not solely exist subjectively, but force themselves upon the perception of another agent who can acknowledge that something has indeed happened in an empirically verifiable fashion.

Example 1: Peptic Ulcer Disease

A patient goes to his doctor concerned about abdominal pain. The definitive diagnosis of peptic ulcer disease comes after the physician observes an ulcer through a small video camera inserted down the patient’s esophagus. The physician suggests entering a controlled trial for a new drug to treat peptic ulcers. In the trial, the patient is told that he would be randomly assigned to one of three treatment groups: the pills he is to take may be a new drug...
being tested, an older drug known to be effective at treating ulcers, or inert pills with no pharmacological activity at all. Neither he nor the physicians running the study know to which group he has been assigned. Four weeks later, the same endoscopic procedure now shows that his ulcer has disappeared. The trial is unblinded, and both the doctor and patient discover that the patient was one of a group of patients who received inert medications. The rate of ulcer improvement among this group was moderate—about 50% of patients’ ulcers healed—compared to higher rates of 65%–90% among those receiving the “active” drugs (Lanza et al. 1994).

**Example 2: Parkinson’s Disease**

Consider the other example to which I often refer back for clarity. A highly publicized study by de la Fuente-Fernandez et al. (2001) examined patients with Parkinson’s disease by imaging their brains with positron emission tomography (PET scan). The participants were divided into two groups, a placebo arm and an open control arm for comparison. All participants in the placebo arm were examined with a PET scan after receiving three separate treatments: a placebo and two different doses of a drug used to treat Parkinson’s (apomorphine). While all the participants in this arm were told that they were going to receive each of these three different treatments, the order was blinded so that none of them knew when they were receiving apomorphine or when they were receiving placebo. The open arm subjects were also examined under all three conditions but knew explicitly if they were receiving apomorphine (and which dose) or no treatment. All the participants in the placebo arm showed specific changes in their brains under the administration of placebo drug, and the response was comparable to that of therapeutic doses of apomorphine given to the open control arm participants. Perhaps the most remarkable aspect was the specificity of the observed response. The increased activity was localized to precisely the same regional and functional area of the brain whose activity is both impaired in Parkinson’s disease and increased under apomorphine’s influence. Additionally, it was found that increases in activity on the PET scan were correlated with the clinical improvement reported by the patients.

Although these examples capture some essential aspects, it is important to appreciate that placebos actually possess somewhat of a split personality. Until the 1930s, physicians utilized placebos either to substitute an inert treatment for a real but dangerous drug or perhaps to reassure when no “real” intervention yet existed. The use of placebos was not malicious but rather embedded in the medical practice at the time. With the invention of clinical pharmacology and the double-blind randomized placebo-controlled trial (RCT) methodology, inert controls were thereupon referred to as placebos in the literature (Shapiro & Shapiro 1997). The placebo effect had
moved from the clinical domain, where doctors dispense inactive medicine, to the experimental, where placebos act as indispensable research tools.

II. FROM THE PERSPECTIVE OF EXPERIMENTAL PSYCHOLOGY: CONDITIONING AND EXPECTANCIES

According to Pavlov’s original “stimulus substitution model,” the conditioning effect could be seen as simply an automatic substitution of a newly introduced stimulus, like a ringing bell, for another stimulus, like a juicy steak, which was already instinctually related to some physiologic effect like excessive drooling. This substitution is induced by repeated pairings of the introduced stimulus (bell) with the unconditioned stimulus (food). After a certain number of these pairings, called conditioning trials, the introduced stimulus will suffice to induce the response, even in the absence of the original stimulus. In order for the classical model to fit, the repeated pairing of a treatment’s vehicle, in our cases a pill, with its effect, could then set up a stimulus substitution that took place when the person took pills without pharmacological activity. In this way, pills might work for humans like bells do for dogs.

But sometimes placebo effects can happen in a way that is contrary to how classical conditioning is supposed to occur. Consider, for example, that a conditioned stimulus paired with morphine can actually cause increased pain sensation when given alone (Siegel 1983). Rather than mimic the effect of the unconditioned stimulus substituted, this would be like Pavlov’s dogs’ mouths suddenly drying up when a bell was rung in the absence of any food! Although this exact result has not been replicated, many placebo effects have been studied that cannot be accounted for by classical conditioning alone. Verbal cues can both elicit placebo responses in the absence of any conditioning trials, as well as modify the placebo responses put in place by conditioning (Kirsch 1997; Benedetti et al. 2003b; Stewart-Williams 2004).

Based on this evidence, psychologists posit that unlike the input–output model of stimulus substitution, they were dealing instead with a more substantial cognitive process, requiring reflective and consciously accessible thought. Thus, they introduced an intermediary cognitive variable claimed to be more directly responsible for the actual responses and can be both effected and affected by conditioning trials as well as other sources, like verbal and social cues (Kirsch 2004).

This intermediary was called an expectancy, and expectancy theory has become the most popular explanation for placebo effects. Their proponents generally define an expectancy as a consciously accessible belief about a situation (Stewart-Williams & Podd 2004, 200). Conscious access in this sense means that an expectancy “can be activated when attention is directed to it”
(Kirsch 2004, 342). The formation of expectancies depends upon the information that the conditioned stimulus provides about the unconditioned stimulus (Rescorla 1988). For example, consider Pavlov’s dogs once again. His results might have been radically different had he only rang the bell every other time he showed them food. In this case, the dogs may not have ever become conditioned because the bell stimulus would not have any predictive value about the presence of yummy food since they were only correlated 50% of the time. According to expectancy theory, conditioning trials leave behind an expectancy of what should happen given certain stimuli. This expectancy, when triggered, is then the entity responsible for the observed effects.

III. THE PLACEBO EFFECT AS INTENTIONAL ACT

The main gain of expectancy theory over an explanation solely built upon stimulus substitution is the addition of cognitive content. Expectancies are anticipatory, as opposed to conditioned reflexes, which are solely reactionary. Since expectancies are defined as consciously accessible beliefs about the world, they appear to possess the property of intentionality. Thus, accessing an expectancy puts it squarely in the realm of an intentional state, and we can appropriately label its associated placebo response an intentional act.

I will argue that although psychologists were correct to seek an intentional account for most placebo effects, the kind of intentionality built into the expectancy account fails to include the body at the center of such effects. A common way of discussing intentionality assumes that mental states, such as belief, desire, and expectation, share their essential intentional features with the linguistic act by means of which they are reported (S. Kelly, unpublished manuscript). The intentional features of the linguistic act involve two parts: some form of propositional content (e.g., [that an elephant is in the room]) and an attitude towards that proposition, such as an attitude of belief that the proposition is true. Traditionally, the content of these intentional states can be specified by, “the conditions the world would have to meet in order for the state to be satisfied” (S. Kelly, unpublished manuscript). The so-called conditions of satisfaction, as such, must be conceptually articulated. So we have a characterization of the intentional state as a conceptual representation of the way the world is, toward which a subject has an attitude such as belief or expectation.

In the way their proponents have chosen to define them, expectancies squarely embrace this rubric. We could presume that our patient, through much experience with active medications for her condition, has come to expect something like (this pill contains an active medicine) and that (this compound will make my brain activity improve). Expectancy theory could construct for us a story by which, given the right perceptual cues, like observing
that one is taking a pill in a medical setting under supervision, these expectan-
cies are activated, presumably causing some effect. Problematically, the fur-
thest we can get is another intentional state whereby one believes that (my
Parkinson’s symptoms are improving). That is, discussing the placebo effect
within this structure is fine as long as we only discuss the transition from one
mental state to another. But how do you get from mental state to body?

Although most psychologists seem to avoid going from expectancy to
physiology altogether, Kirsch (1997, 172) argues that the body’s physiologic
response is probably related in much the same way that it works with nor-
mal volitional action, like raising my arm when I want to. This assumes that
a normal volitional action occurs in a sequence of events such that an agent
expects that (my hand will rise), and then it does. Unfortunately, it is not
sufficient to simply expect my arm to raise in order for it to do so, and as we
will soon see, neither is it necessary.

Merleau-Ponty (1962, 77) lays out our problem as a question of how to
understand a phenomenon:

It is not clear how [the phenomenon] if dependent on physiological conditions and
therefore the result of third person causality, can in another context arise out of the
personal history of the patient, his memories, emotions and volitions. For in order
that the two sets of conditions might together bring about the phenomenon … they
would need an identical point of application or a common ground, and it is difficult
to see what ground could be common to ‘physiological facts’ which are in space and
‘psychic facts’ which are nowhere.

Our exemplary patients both experience phenomena that, in different
contexts, can come about due to physiologic conditions (in the case of an
active medication) or psychic conditions (in the absence of any such activ-
ity). To put our question another way: how could a private subjective expect-
tancy associated with taking a placebo pill ever manifest as an observable,
public change in the physiologic body?

While psychologists were correct to introduce additional cognitive content
and therefore intentionality into an understanding of the placebo effect, we
are facing certain difficulties in constructing a ground-level story within their
philosophical framework. To deal with this impasse, I wish to present a dif-
ferent account based upon Merleau-Ponty’s motor intentionality to preserve
the intentionality of placebo effects without the cumbersome baggage of the
traditional account. Merleau-Ponty (1962, 101–2) argues that the understand-
ing of the world that informs my skillful, unreflective actions is not the same
as, nor can it be reduced to, the understanding of the world that informs my
reflective or cognitive acts. This distinction is precisely the problem we faced
earlier in trying to go from expectancies to physiological response.

Merleau-Ponty (1962, 110) coined the term motor intentionality to refer to the
intentional activities that essentially involve a bodily understanding of the world.
Consider the canonical motor intentional example of grasping a doorknob. In the
traditional account, this action would involve a representation of what would count as a successful turn and with this concept in mind, then acting on it, ending either in success or failure. In a normal everyday situation, the act of grasping a doorknob is a skillful, unreflective act. One does not have or needs any concept of the multiple processes necessary to succeed in the act either in terms of one’s arm or the mechanics of the doorknob. S. Kelly (unpublished manuscript) points out that, unlike the traditional account, motor intentional activities do not submit to the content/attitude distinction discussed earlier. In a motor intentional activity, “there is no way of specifying representation independent of the activity that manifests it” (S. Kelly, unpublished manuscript). This means that without the bodily engagement in the activity itself, there is no way of representing the activity.

To account for placebo effects within the expectancy account, we would have to require our patient to have a more specific set of beliefs that amounted to something like (this pill contains an active compound that will increase activity in specific regions of my brain). First, it is not at all clear at what level one would need to develop his/her expectancy in order to get an effect. Would the vague expectancy that (my symptoms would improve) be enough? Or do we need to be specific to the symptoms or organ involved? Or even the cellular processes picked up on a PET scan? Second, it is not even clear that any such concepts are necessary in the first place. Certainly not everyone who undergoes a placebo effect in such a study has concepts of the organs involved. Even if the subjects could conceptualize something like specific brain regions, say, through a monitor that displayed their PET scan results, at some level, they would report that they actually have no idea how they actually achieve the observed effect of increased neural activity. Even an expert on the topic who knew all sorts of information about how neurons degenerate or how certain compounds increase neuron activity does not use these ideas to affect the organs and has no idea how her own brain became more active in such a case.

To get this important distinction in better view, consider the striking case of biofeedback. Several studies have documented the amazing ability of individuals to produce reliable twitches of single muscle fibers (Basmajian 1977). This is an extreme example where clearly individuals have no explicit, conceptual idea about how they actually do this or even that they are doing it. Someone might know that the goal is to twitch particular muscle fibers in his/her arm, but in the process of actually learning this skill have no idea how he/she actually achieved this goal successfully. Instead, we can track the development of successful biofeedback skill as going from a disorganized activity of triggering lots of muscle fibers to twitch towards the skillful manipulation of single fibers. Here our earlier critique is particularly apt and striking. The agent is not just entertaining a goal or outcome and waiting for it to happen. Neither is she acting upon some conceptual representation of her brain or muscles. The neural circuits of biofeedback only exist for the disembodied observer, from a perspective outside the lived experience of actually doing it.
Concepts like physiologic facts are learned by deference and only exist in the third person. This means that they are perspectiveless, detached, and fully devoid of the life that flows through the organs themselves. At least in terms of the phenomena, we need not require an agent to possess a concept of what a successful action would be prior to the response. Someone has no idea how he/she actually does these activities, suggesting that no explicit goal or representation is necessary to entertain prior to executing some sort of physiologic response.

Within this discussion, it should become clear that placebo effects keep company within the family of bodily activities we would label as skillful and unreflective. The skillful part develops through a learning process, the whole reason that psychologists needed to rebuild a theory with cognitive mediation. We can imagine that this learning could be culturally and/or socially mediated or the direct result of conditioning trials. The unreflective distinction is earned through our discussion of the difficulty of initiating a response with a conceptual or linguistic representation of the response itself. A concept of regional-increased brain activity is neither necessary nor sufficient to initiate such increased activity. In our regular everyday existence, this sort of causality from concept to physiology is not readily apparent; just thinking about a certain body part or brain region is neither necessary nor sufficient to alter its behavior in any significant way.

In order to maintain the position of mediation through concepts, in the face of this critique, one would have to argue that an agent still has a representation of the action, but this representation resides and works in an inaccessible or hidden fashion. Such a view is embraced by the suggestion that placebo responses might utilize implicit or unconscious expectancies (Hahn & Kleinman 1983; Hahn 1997). The burden remains, however, of bridging conceptual representation to physiologic action. With a simple activity like grasping, we know that there are numerous physiologic processes involved. If we are going to call the action intentional, then it seems that all the component processes constituting this action should take on this intentional aspect (Dreyfus 1999, 4). But if this action was mediated by a concept, then it still remains to be seen how such a concept could reach down and govern all these intentional physiologic processes (Dreyfus 1999, 4). At some point if we ever want to reach the body, we must take an infinite logical leap to leave this subjective domain and enter that of the body as observable object. A concept of the body, entertained at any level of consciousness, remains of an entirely different world than the lived body itself.

IV. FROM “PLACEBO EFFECT” TO THE EMBODIED MEANING RESPONSE

We are now ready to ask how these placebo responses seem to work at the level at which we are interested: the phenomena. The first thing we must
deal with is the problematic terminology of the placebo response. Medicines are always administered within a given setting and the person situated in a particular way, both shaping how and when a response occurs. The labeling of a bottle with a name brand improves a placebo’s analgesic efficacy (Branthwaite & Cooper 1981). More pills cause more pronounced effects, whereas color can determine whether a stimulating effect is experienced compared to a depressing one (de Craen, Roos, Leonard de Vries, et al. 1996; de Craen et al. 1999). Therefore, the term of “placebo response” or “placebo effect” is already misleading, for it suggests that the placebos themselves induce a particular response or effect, yet placebos are defined precisely in terms of their lack of an ability to induce any effect. It is along these lines that Moerman & Jonas (2002, 472) argue that we need to rename the phenomena the meaning response to more appropriately capture the way people are responding to meanings associated with placebos given certain situations, not to placebos themselves. This allows us to broaden the scope of the phenomena we are discussing for presumably meanings present themselves in many situations beyond the simple case of inert pills. We will return to this discussion shortly.

To complete the account I intend to present, first we need to unpack these meanings. Most anthropologists interested in the topic of placebos realize that these responses are not mediated via any explicit constructs, so the discourse is instead focused around entities like beliefs, which reside in the implicit unconscious (Hahn & Kleinman 1983). Unfortunately, this translates into taking the picture of intentionality for which the expectancy theorists argue and just burying it somewhere beneath awareness. Such a move makes the account subject to criticism for being circular and not falsifiable. Since the psychological measurement of expectancies relies upon verbal self-report, if expectancies are defined as implicit then, regardless of the outcome of an experiment, a researcher could claim their involvement (Stewart-Williams & Podd 2004). This reveals a methodological constraint on a theory of meaning responses from the perspective of experimental psychology. Anthropology has a more accurate perspective regarding the phenomena, but I think that a phenomenological account from motor intentionality can provide the missing backbone.

We need a way to understand how someone with peptic ulcer disease can learn that a certain pill or certain situation can improve the condition of his ulcer. Merleau-Ponty (1962, 140–1) claims that “my body has its world, or understands its world, without having to make use of my ‘symbolic’ or ‘objectifying’ function.” In other words, any understanding of meanings consistent with our story of bodily understanding ought to avoid these “functions” and therefore should not be explicit or reflective. If representations associated with motor intentional activities cannot be separated from bodily activity, then we also cannot accept an account that simply takes the structure of explicit meanings and buries them implicitly in the unconscious. This
is what the anthropologists miss, that we need a way to discuss embodied meanings.

Merleau-Ponty (1962, 138–9) lays out the kind of learning our account must describe:

Consciousness is being towards the thing through the intermediary of the body. A movement is learned when the body has understood it, that is, when it has incorporated it into its ‘world,’ and to move one’s body is to aim at things through it; it is to allow oneself to respond to this call, which, is made upon it independently of any representation.

Our shift away from the dichotomous notions of success and failure moves us toward a kind of understanding in terms of “bodily capacities and a disposition to act” (S. Kelly, unpublished manuscript). These mysterious bodily capacities and dispositions represent a move away from an intentionality of the form “I think that” toward an embodied sense of “I can” (Merleau-Ponty 1962, 137). The sense of what an agent can do is perceived in terms of what a situation affords or offers (Gibson 1986, 127). An affordance was meant to signify that we do not separate the practical significance of objects from our perception of them: cups appear grabbable; doorknobs appear graspable. We need not reflect upon what we can do with or to an object in order to do it. Thus, the meanings to which the anthropologists refer can be further elaborated as affordances perceived in a situation.

The final piece for us to lay out is how affordances play out in terms of motor intentional action. Affordances present themselves most clearly when we take on the comportment of absorbed coping, a way of being and acting in an entirely unreflective, but skillful way. Dreyfus (1999, 3) explains:

To get the phenomenon of absorbed coping in focus, consider a tennis stroke … if one is expert at the game, not bothered by the pressure to win, and things are going so well that one is absorbed in the flow, then, if one feels anything at all, one feels that one’s current activity is caused by the perceived conditions not by one’s volitions. Without trying, one experiences one’s arm shooting out and its being drawn to the optimal position, the racket forming the optimal angle with the court—an angle one need not even be aware of—all this, so as to complete the gestalt made up of the court, one’s running opponent, and the oncoming ball.

Dreyfus (1999, 5) goes on to generalize, “… in absorbed coping, the body of the performer is solicited by the situation to perform a series of movements that feel appropriate without the agent needing in any way to anticipate what would count as success.”

Here is where our phenomenological account yields a big difference in interpreting meaning responses. We saw a parallel scenario in the tennis player as in the case of our patient with Parkinson’s disease. We reasoned that a concept of a successful response to a drug was neither necessary nor sufficient to initiate the actual changes observed in response to being administered a placebo pill. In fact, it seemed qualitatively entirely different from
the observed response. In the phenomenological account, an agent need only feel a sense that his response is appropriate to the solicitations placed upon him by the situation, requiring no cognitive or intellectual involvement that the expectancy account requires.

Where Dreyfus and Merleau-Ponty focus largely on sensorimotor phenomena, I think we can generalize the picture to the broader sense of the physiologic. Seen from a certain perspective, any of these motor acts, like grasping a doorknob or swinging a tennis racket, become sets of physiologic events. There are countless molecular and cellular processes going on when someone is grasping an object, and there is nothing in principle that makes these sorts of physiologic processes different than ones involved in our meaning responses. I think the main difference is that the motor solicitations made upon an individual by his situation can be more easily articulated in terms of observable body movements. It is much easier to appreciate how a situation solicits a certain movement of an arm holding a tennis racket than to appreciate how a situation can solicit a tiny region of someone’s brain to become more active or affect the lining of one’s stomach.

Much like any object is perceived in terms of its practical significance (doorknobs afford grasping), we must describe the affordances of healing that must be present in order for someone to respond to an inert intervention. The affordances of a doorknob can only be understood in terms of the way the situation unfolds. The doorknob gains practical significance only as someone is trying to pass through a doorway on the way towards entering or exiting a room. Similarly, the practical significance afforded by a pill or injection will be determined by the situation.

To better get the phenomena in view for someone who is ill, consider that in health, the body appears as lived-through. Insofar as I aim for things with my body, it is itself absent for me. Instead, perception takes up the world around me rather than the means by which I come to know that world. Phenomenologists argue that the central phenomenon of illness in comparison to health is a process of alienation involving the breakdown of affordances, thrusting the body from its absence to the foreground of one’s phenomenal field (Svenaeus 2001). For our exemplary patient with peptic ulcer disease, we can imagine that his abdomen was entirely absent for him prior to the episodes of pain he began to experience, thrusting the pain’s source to the foreground of consciousness. For a situation to afford healing, then, would be to offer the ability to improve one’s flow through the world, and in so doing to help the body recede into the background.

We are thus approaching a story of a meaning response that goes like this: a patient perceives affordances of healing in a particular situation and his body thus responds to the solicitation made upon it in the same way that our unreflective motor activity unfolds in the world. More basic examples like grasping doorknobs or expertly swinging a tennis racket are both highly skilled, unreflective acts. What had to be learned in each was essentially a
bodily understanding of the world and how to respond to certain situations, which in the case of our tennis player or doorknob grasper, was a bodily understanding of physical space. For our meaning response case, I seek to generalize this idea to a bodily understanding of socially and biologically determined space. I am arguing that our everyday absorbed coping is also a highly skilled way of being-in-the-world, where much of our understanding is in terms of the body, a way of physiologically interacting with our world that is inseparable from the representations that informs it.

That something like a pill or injection can afford healing in such a physiologically specific way, even in the absence of conditioning trials, is something the body must come to learn. But healing rituals are both culturally and personally specific. Hahn and Kleinman (1983, 16) call such a culturally specific worldview of health an *ethnomedicine*, meant to signify entirely different ways of being-in-the-world, generating different signs, symptoms and interpretations of what kinds of diseases, what treatments are available, and of what appropriate interventions might consist.

Let us take someone socialized into one ethnomedicine, for whom illnesses are widely accepted as being due to possession by angry spirits and the appropriate interventions are 3-day long exorcisms. It is not a stretch to believe that her physiologic response to inert pills might be different than a woman of similar age who watches many commercials about all sorts of different new pills that the commercial suggests she should ask her doctor about. Similarly, the response for this woman and our other “possessed” woman would probably be very different with respect to the exorcism ceremony. The pills, or the exorcism ceremony, both relate different meanings to those engaged with them. What different rituals mean to different people is going to affect the affordances they perceive and how they respond.³

We can also imagine how psychological factors, like a phobia of pills (or shamans for that matter), could affect affordances, turning these into portals of terror rather than healing. Just as we strived to elaborate affordances of health, just as easily can we construe *affordances of illness* to account for effects that go in the opposite direction of health, so-called “nocebo effects” or the related phenomenon of placebo side effects (Hahn & Kleinman 1983; Hahn 1997; Stewart-Williams 2004). We can imagine these to be subject to all the same cultural and personal dependence and relativity.

The affordances perceived will also be partly determined by biology, as well. For our patient with Parkinson’s disease, clearly the world of pure objects described by physiology plays an important role. The countless physiologic processes observed during a meaning response are quite specific to a particular brain region’s function. Why this brain region and not another? Or another organ altogether? Merleau-Ponty (1962, 75) suggests that “an excitation is not perceived when it strikes a sensory organ which is not ‘attuned’ to it.” Our biology anticipates certain stimuli, and in what remains a mysterious way, the appropriate physiology is geared into the response in a way
that both enables certain perceptions, but also contributes to the boundary
conditions of the phenomena, much like the way that the biological archi-
tecture of an eye both conceives and constrains what can be seen.

Speaking in terms of affordances thus permits us a distinct advantage over
representational meanings or expectancies. It gives us a way to comprehend
how individuals respond to their situation in an essentially bodily way. In-
stead of a story about a detached mind representing the world, making judg-
ments about it, and causing a body to respond to them, we have a sentient
body, capable of responding to the world without having to invoke any re-
flexive activity. When intentionality resides in the body, such as the case in
motor intentional activities, we can begin and end our story in the body,
side-stepping the problems of connecting the physiologic body to concep-
tual representations.

Another distinct advantage of this phenomenological analysis is a better
cohesion of the data on “placebo effects.” Stewart-Williams & Podd (2004)
found only one study clearly suggesting that meaning responses are possible
in humans by pure conditioning alone. Benedetti et al. (1999) administered
therapeutic doses of an opioid drug to postoperative patients, producing
some subclinical respiratory depression as a normal side effect. After this
normal postoperative pain treatment course, they later administered inert
vehicles of the drug but told the patients that they were receiving the same
pain medication. Shortly after administering the placebo in this fashion, they
measured significant respiratory depression, this time a pure placebo re-
sponse. The authors claim that the patients never formed any conscious, re-
flexive concept about a physiologic response. They substantiate this claim
by arguing that any changes were subtle with respect to what is noticeable
by a normal patient, though easily measurable in the laboratory.4 Furthe-
more, no subject reported any respiratory discomfort. The researchers do not
report anywhere that they actually asked the patients, but this was probably
so as not to draw any attention to these secondary effects. After all, the pa-
tients and the researchers mainly discussed pain and its relief by medication.
Any respiratory effects were probably only mentioned as possible side ef-
facts during initial disclosure and informed consent procedure. This way,
conscious activity was focused upon pain relief and not toward these sepa-
rate physiologic changes.

Hard-line expectancy theorists write off this study as an anomalous finding,
inconsistent with expectancy theory (Kirsch 2004, 342). Others take a more
cautious approach by saying that while most of the time, expectancies medi-
ate meaning responses, sometimes they can be caused by conditioning with-
out the formation of expectancies; in other words, simple stimulus substitution
in the absence of any cognitive content (Stewart-Williams 2004; Stewart-
Williams & Podd 2004). This finding, widely regarded as anomalous in the
literature, should really not be so surprising given our analysis. Benedetti’s study
parsimoniously fits into our discussion as another example of the body
learning ways to get set in different situations, and this process of being solicited to action involves holistic physiologic adaptation without having to resort to any conceptual consciousness.

Because of the restrictive cognitive and intellectual notions of intentionality, psychologists may have been led to a dichotomy between bodily reflex, absent of cognitive content, and purely reflective acts, wherein expectancies were thought to play out. But Merleau-Ponty suggests that that this is a false dichotomy. Lying somewhere in between the two poles of reflex and cognition is the place where we spend most of our time exercising motor intentional acts, knowing the world and living through our bodies. Expectancies might be artifacts of the methods by which psychologists are bound, creating constructs to measure what may in fact be spurious to the phenomena of interest. In this case, we might say that Merleau-Ponty has introduced cognitive content into the conditioning model, by making what is learned not reflex or cognition but a sort of physiological significance. This leaves substantial questions open far beyond the scope of this paper such as why the body learns certain habits in certain ways: why in some cases does it behave according to the conditioning model and others in opposition to it?

Affordances, and the way the body responds to their solicitations, are present in any case where a medical intervention is administered. This lends credence to the claim that any interaction within a medical context can bring about a physiologic response (Brody 1997). Brody’s claim implies that a pure control group would be impossible to achieve, since even a control group needs to be assessed, perhaps given an endoscopy like our example presented earlier. In order to gather data for comparison at all requires some element of exposure to and interaction with health care physicians and all the inherent meanings intrinsic to these types of encounters. Thus, the act of observation always occurs within a meaningful context, thereby affecting that which is being observed or measured. These meaningful physiologic responses are present regardless of whether interventions are active or inert, an argument supported by the finding that openly administered active medications produce more pronounced effects than when administered in a hidden fashion (Benedetti, Maggi, & Lopiano 2003a).

In fact, affordances are present all the time, and our situations are constantly soliciting our bodies to respond in physiologic ways. Everyday examples of this might include autonomic changes that we associate with anxiety or the letdown response of lactating mothers, among many others. As we discussed earlier, in Merleau-Ponty’s original description simply the way we move about in the world is in response to the solicitations made upon us, and every movement of the body is dependent upon physiology.

If meaning responses are always occurring in some form or another, we learn two things about placebo effects. First, they comprise just one subset of meaning responses, governed by very specific circumstances. Second, these specific circumstances gave rise to the “placebo effect” when we began
to observe our normal, everyday coping with the world from the detached, perspectiveless distance of a controlled trial. The push to create experimentally verifiable evidence for efficacy created an artifact that has been perpetuated in reified ways.

V. TRADITIONAL INTENTIONALITY, RCT’S, AND MECHANICAL THINKING

Biomedicine continues to be puzzled by the meaning response even as it continues to measure it as the placebo effect. The same detachment from the lived world that created the placebo effect from the meaning response has become the cornerstone of biomedical theory. Biomedical physicians stake their claim to authority precisely upon the purported ability to separate out objective findings either in the laboratory or an RCT from everyday subjectivity. By declaring the RCT as our “gold standard,” we reveal the level of intellectual currency physicians we invest in it.

This gold standard actually has two components, both with important implications for our discussion. The first dimension is as an epistemic gold standard (Sullivan 1993, 219). RCT’s rely upon codified, measurable variables that statistically relate to similarly measurable outcomes. Since we regard this information so highly, we seek to recreate the conditions required by evidence-based decision calculus in the clinical theater. This translates into the need to codify our patients so that we can relate the results of a study to our patient’s concern. The second is as a clinical decision-making gold standard. For the evidence-based physician, deciding how to treat a patient is an actuarial process. Given a certain patient with a certain condition, the perfect treatment guideline would consist of a prospective RCT that matched up exactly with the patient’s characteristics and provided a statistical prediction of treatment outcome.

The movement toward evidence-based medicine, however, requires the prioritization of bodies as measurable objects. Clearly, this method-based approach has led to remarkable breakthroughs and the alleviation of much suffering. Yet this has largely become a push to “de-world” the patient, transforming experience through the lived body into an objective body fully perceptible from the third person perspective (P. Benner, 2005, personal communication). Increasing reliance upon diagnostic technologies maps the workings of the body in dizzying detail, from X-rays to microscopes to colonoscopies. These methods present more of the body’s surface area and hidden depths to direct visualization and present them as measurable objects. The body as object is constantly reinforced in the clinical theater through such practices, providing a sense of salience and guiding what is noticed (Foucault 1975; P. Benner, 2005, personal communication). That is to say that the repetition and institutionalization of these detached ways of knowing have made us experts at seeing mechanical bodies, and by consequence, may blind us to the meanings all around us.
As Moerman (2002, 137) cogently summarizes the problem:

Consider a thought experiment: we fabricate some placebo socket wrenches. They look like socket wrenches, sound like them, and feel like them. But we design them so that when you put the socket over the loose nut and tighten it, the nut will stay loose. We secretly place these wrenches in the toolboxes of a randomly selected set of mechanics at the car repair shop. Now, if we discovered that the nuts these mechanics were working on really did tighten up, we would have a good reason to be surprised.

We are surprised when placebos seem to work, revealing how deeply entrenched the mechanical paradigm really is. Moerman's example highlights the problem with the traditional account of intentionality and how it plagues us in the practice of medicine. Despite a growing attention to a patient's subjective "illness" experience versus the objective "disease," such distinctions still retain the conceptual or consciously accessible aboutness of mental states that puts them across an infinite divide from the physiologic. Perceived meanings are regarded with increasing importance not as affordances, but only insofar as they affect how someone feels or thinks about their disease condition. In turn, this reflective consciousness can affect outcome only insofar as it affects behavior. For example, the conventional thinker might regard that someone who entertains positive thoughts about the medication a physician has prescribed her might be inclined to be more adherent to the regimen the physician prescribed. More pills in the chemical body thereby lead to more improvement by perfectly mechanical logic. Despite this, adherence in itself has been shown to improve outcomes even with inert pills (Coronary Drug Project Research Group 1980; Pizzo et al. 1983).

The perceived separation between mental contents such as beliefs or expectations, and physiology contributes to an implicit presumption behind the design and interpretation of the RCT methodology. The legitimacy of modern medical treatments rests in their claims to "efficacy," "activity," or "specificity." Authors struggle to define "placebo effects" as precisely a treatment's absence of any one or combination of these, leading to endless confusion. As Sullivan (1993, 224) keenly points out, a treatment's activity or specificity can only be verified or determined in an RCT. These entities thus critically depend upon the method, revealing the underpinnings of our medicine to be a method-based theory. A clearer interpretation of placebo effects might simply be "outcomes that cannot be measured in RCT's." In fact, we have discussed the impossibility of an absolute study control since every measurement cannot be divorced from meanings that affect the results. Yet, we know that placebo effects are measured in RCT's and are, in fact, an integral element of them, for what determines a treatment's efficacy if not its comparison to a placebo?

The questions of what exactly RCT's measure and how to utilize this information in clinical practice then become complicated ones. To make the
difficulty more concrete, consider our peptic ulcer example. According to the data, at best, 90% of patients who meet the inclusion criteria for the study should improve with medication compared to 50% who receive only placebo. What does this mean in clinical practice? From a distance, we are drawn to make a placebo comparison and claim that of 10 treated patients, though nine improve, only four of those can be attributed to the drug. Yet in the actual clinical theater, how could a physician ever separate the meaning from the pharmacology in the nine patients she has successfully treated? We rely upon the RCT to provide that distance, creating the knowledge that informs us to treat a patient with peptic ulcer disease in a certain way. To maintain that meaning is independent of clinically relevant physiology is to condemn the physician to endlessly committing a post hoc ergo propter hoc error every other time she attributes her patient’s peptic ulcer disease response to the drug she prescribed.

We cannot simply subtract out a placebo effect to find the intrinsic efficacy of a treatment. Both our analysis and the evidence refute this notion of separability as supported by the traditional intentional account. Rather, treatments are always embedded in a meaningful context such that they seem to be able to amplify or counter physiologic interventions in a nonlinear fashion. It is in this synergistic nature that meaning manifests its largest clinical relevance, in its apparent ability to influence physiology, with the power to both potentiate and negate our biomedical interventions.

VI. MEANING MATTERS: TOWARD SKILLFUL PARTICIPATION IN THE HEALING PROCESS

Although we have hopefully established that through the lens of motor intentionality, the psychological and the physiological are two sides of a single phenomenon, the more practical readers may wonder to what degree each can affect measurable outcomes. Conventional biomedical thinking perceives this balance largely on the side of mechanical physiology. But how much can meanings really affect outcomes? A key problem with motor intentional meaning responses, at least in terms of biomedical knowledge, is their resistance to standardization. An individual’s entire personal history contributes to the affordances she perceives at any given moment. It is impossible for affordances to be the same for any two people at any moment or even for the same person at different moments! These properties make it impossible to fully standardize a set of affordances to search for outcome variations and, consequently, an absolute quantification of the meaning responses’ strength an impossible task.

That being said, there is still much we can learn about variations in how members of different groups respond to certain affordances. In 1993, Phillips et al. (1993) published a report on how dramatically the perceptions of
meaning can affect outcomes. Utilizing a database of over 400,000 death records in the state of California, the researchers showed that Chinese–Americans died on average 1.3–4.9 years earlier if they have a combination of disease and a birth year that is ill-fated according to Chinese astrology compared with “whites” or fellow Chinese–Americans not born in an ill-fated year. Even more interesting was that the stronger the attachment to Chinese traditions, the more life was lost, implying a sort of strength of meaning effect.

The idea of biological variability has become commonplace in modern medicine. The theory goes that generalizability of study results is limited when applied across cultures presumably because of variation in genetics and enzyme expression profiles between, for example, someone of Chinese and someone of Caucasian genetic backgrounds. Studies like that above show how cultural variability can, presumably by way of a different framework of affordances, preclude generalizability and create variable outcomes among different groups. Given the individual variability of affordances, it is quite remarkable that we can detect variation across cultures, thanks to a certain homogeneity within their boundaries. The effects of culturally specific affordances may prove to be one of the most interesting implications of introducing Merleau-Ponty’s phenomenological description into medical thinking.

If affordances of healing can have such profound effects, to what degree can physicians work with them? If we adopt the strictly biomedical paradigm, the body can be viewed as a machine, disease as its breakdown, and so treatment becomes finding the right tool to fix it. By standardizing both the mechanic and the machine, RCT’s can determine what is the best tool for a given problem. In this way, our biomedical knowledge lacks perspective, rendering the identities of both patient and practitioner irrelevant. Anyone can tighten a nut; the results should be the same regardless who uses the wrench.

The thrust of this paper has focused upon the patient’s world, but the motor intentional framework applies equally to the physician. There ought to be a way that health care practitioners can work with and affect a patient’s perceived affordances of healing in such way as to modify the outcome. It is quite probable that much of a physician’s ability to access and engage a patient’s motor intentionality will occur through his/her own such intentionality. Merleau-Ponty (1962, 96) describes that a fundamental nature of our conscious experience is to be with other people as opposed to being beside them. He delineates that we can comport ourselves to either share in a singular experience with others or detach and view them as separate from ourselves. The former sounds much like the emotional resonance that takes place in clinical empathy (Halpern 2003). A common critique of biomedical practice is that physicians appear detached, reducing their patients to disease processes. Given the priority of the mechanical body, this is not surprising.
Such a worldview prioritizes measurable outcomes over attending to how a patient feels about their disease, and so it naturally comports itself to detachment over empathy. Empathy just wastes time and introduces subjectivity into what is supposed to be an objective process.

From our phenomenological arguments, there is every reason to believe that physicians influence the outcomes of their patients. In fact, it appears impossible that they would not. Although it has been suggested that complementary and alternative medicine (CAM) therapies may engage in the use of an “enhanced placebo effect,” the role of meaning interacting with more mainstream medical practice has been little investigated (Kaptchuk 2002). Researchers often point out that the continued success of CAM may be attributable to their systems’ placebo-generating properties and practitioners’ clinical skill in manipulating them (Kaptchuk 2002).

Effective clinical skill in the biomedical realm clearly requires mastery of the scientific knowledge. It is highly likely that an expert physician, the so-called “good doctor,” utilizes more than just mastery of our biomedical toolbox. Although without formal study it is difficult to substantiate that some physicians’ patients enjoy better outcomes, such studies could be done. Considering the dramatic effects observed in the Chinese–American study, it would not be surprising if physicians who particularly excelled in empathic or “placebogenic” medicine could influence similar differences.

The “good doctor” is a recognized phenomenon in which many invest with confidence (Rizo et al. 2002). Unsurprisingly, no standardized methods for defining one exist. As informed by Merleau-Ponty, we discover that, “skills are ‘stored,’ not as representations in the mind, but as dispositions to respond to the solicitations of situations in the world” (Dreyfus 2002, 367). Because this process is best understood as a motor intentional process, it follows that it does not operate through conceptual, reflexive consciousness. A “good doctor” most likely engages the patient through shared meanings and encourages her toward affordances of healing, thereby facilitating a treatment’s activity. And just as in our biofeedback example, where someone does not utilize or need a concept of the skillful action in order to do it, the empathic physician ultimately cannot tell another how she empathizes.

According to the working biomedical paradigm, we have become experts at solving medical problems. Marcel explains:

A problem is something which I meet, which I find completely before me, but which I can therefore lay siege to and reduce. But a mystery is something in which I am myself involved, and it can therefore only be thought of as a sphere where the distinction between what is in me and what is before me loses its meaning and initial validity (Marcel 1949, 117).

Viewing the body as a broken machine is to view it detachedly as a problem. In this light, the proper action is to find the appropriate tool or technique, such as the proper medication for a particular disease. As novices, we
first find ourselves radically involved in the clinical theater from which we must learn to disengage, taking on the objective comportment we are trained to prioritize. Marcel implores us not to problematize and seek technical solutions, but to approach the mystery that lies before us through participation. This sort of skillful participation is probably already largely present in the clinical theater. Both clinical intuition and meaning responses utilize ways of knowing that are very different than the vast body of knowledge currently driving biomedical science. Whereas RCT’s look to standardize the clinical encounter, the author suggests that in order to further explore this topic, we need to start examining the biased clinical context itself. If we seek an outcome-based approach, one way to do this is to study variation between physicians, much in the same way that the Chinese–American study did for patients. Various measures could be devised to evaluate both subjective and objective outcomes in a statistical fashion. In this way, we might begin to articulate skills utilized by the “good doctor.” For clearly, if meaning responses are real (which they are), and some physicians have learned to work with these ways of understanding (which they have), then there ought to be ways of spreading such knowledge, even if it cannot be done through traditional routes of medical education. After all, Marcel (1949, 118) reminds us that, “The mysterious is not the unknowable.” The embodied meaning response simply demands participation to know it.

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NOTES

1. Parkinson’s disease is a condition associated with the degeneration of a specific anatomical and functional region of the brain.
2. The way I will use the term affordance differs slightly from how Gibson used it and demands some clarification. To Gibson, affordances are hidden in the optical array that we perceive, as objective data in what reaches our sensory organs. By some unspecified mechanism, we become attuned to these affordances based on our situation. In the Merleau-Ponty story, and the way in which I will utilize the term, an affordance acts as an indeterminate solicitation that is situation dependent. Although Merleau-Ponty never actually used the word affordance, it seems a convenient way to describe the phenomena he describes so long as we properly qualify its use. The key difference in the terminology lies in the notion of a solicitation. Gibson had no such notion. To him, given certain situations, I simply may or may not become attuned to certain affordances of an object, and then I would act on these affordances in the ordinarily intentional way (via goal-directed behavior, etc.) To Merleau-Ponty, the situation ultimately governs how I perceive an object, and it does so precisely in how the situation solicits me to respond. Thus, in Merleau-Ponty terms, an affordance is better described as the degree to which an object solicits me to respond to it in a particular way given my situation.
3. As an anonymous reviewer of this paper pointed out, observing this difference between responses to pills versus individuals socialized to different ethnomedicines using PET technology would provide an extremely interesting experiment!
4. The specific values the researchers report due to either placebo or active medication (0.2 mg of buprenorphine) were decreases of 0.02–0.06 L/min, tidal volume (VT), and slowing of respiration rate (RR) of 1–2 breaths/min.

REFERENCES


